



Closing the implementation gap: Towards an international working market for Nature-based Solutions

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Current situation

Many good examples of NBS pilots



Edinburgh - NBS enhancing health, wealth and sustainability



Genk - NBS bridging green and industrial heritage



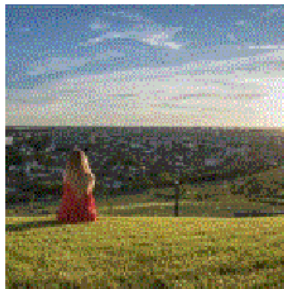
Linz - NBS as a motor for urban growth



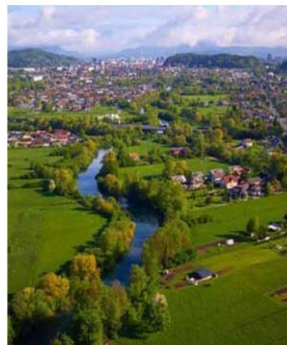
London - NBS for a leading sustainable city



Milan - NBS for urban regeneration



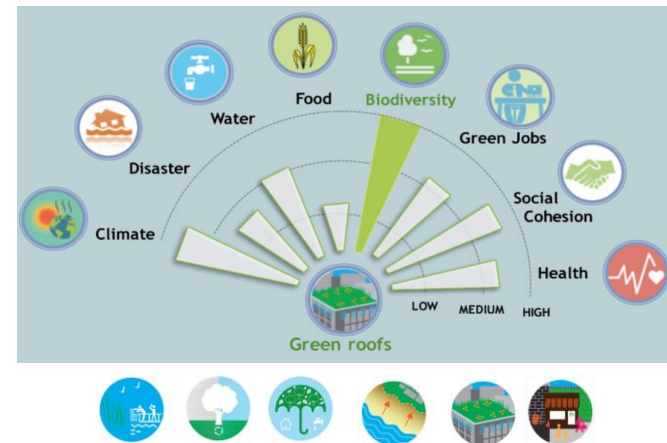
Oradea - Improving quality of life with NBS



The Ljubljana river restoration, Ljubljana



Rotterdam - NBS for building a waterproof city



Lack of consolidated demand

Need to speed-up the process towards mainstreaming and upscaling..

How?

Increasing evidence on effectiveness of green infrastructure and hybrid strategies

Working with Nature vs. Traditional Infra



Green Infrastructure

- Scale: River Basin
- Multifunctional/ co-benefits # scales
- Open systems – large areas
- Construction: longer, nature dependent
- Performance: adaptive & cyclical
- (+) System resilience – BUT vulnerable

Traditional Infrastructure

- Scale: demand dependent
- Often monofunctional
- Clear boundaries – limited area
- Construction period: short, Project Management dependent
- Performance: eroding
- System resilience (limited) – for conditions for which it was designed

Green infra from two perspectives



Eco-engineers

- Risk reduction potential
- Scale: watershed & society
- Stock: natural capital
- Multiple functions =
 - co-benefits &
 - co-funding

Financers & Project developers

- New technology → risk increase
- Scale: project contractual boundaries
- Stock: cash balance – debt servicing capacity
- Multiple functions =
 - multiple principals = (+)contractual risks
 - (+) Construction & Operation risk

Towards bankable NBS projects...



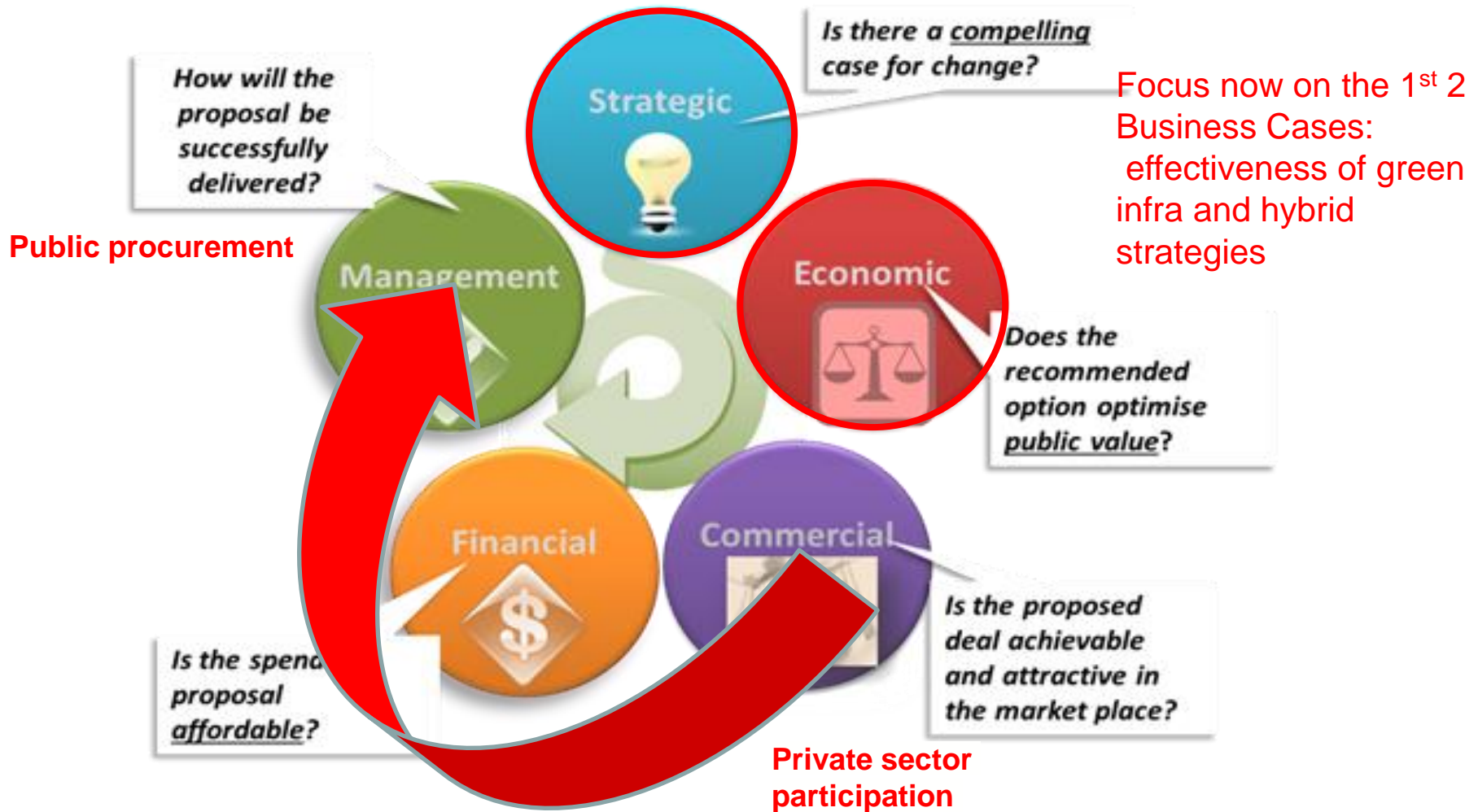
Characteristics of climate adaptation projects (Gleijm & Gerdes, 2012)

- Capital-intensive;
- Unique;
- Delayed & Dispersed benefits;
- Non-guaranteed and non-financial benefits;
- Limited autonomous earning power;
- High risk profile

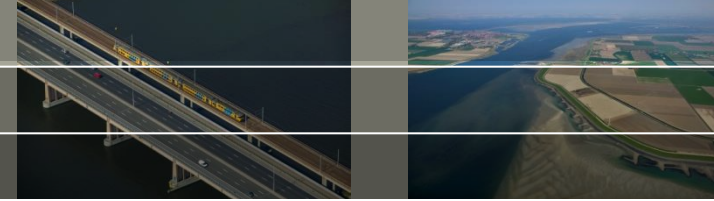
Intrinsic characteristics of green infrastructure projects that makes them less financial attractive than grey infrastructure (WB EASIN, 2012)

- Elevated perceived risks
- Capital market and information gaps - “newness” of technology & perception of excessive risk
- Risk-reward profile of green infrastructure not financially attractive (absolute or in comparison with grey ones)

Key elements for market creation



Need to reduce barriers in financial and management BC elements => market creation



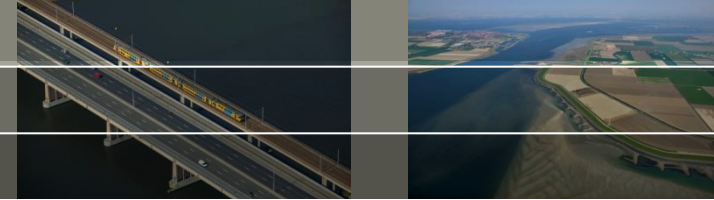
Cash profile

- Making biophysical advantages of green versus grey, and green + grey quantifiable
 - Long term effect of NBS on “level of service” (e.g. WQ, water supply)
 - What is acceptable performance?
 - Impact metrics (not clear indicators for performance and impact measurement and comparison versus grey)

Risk profile

- Clear risk allocation: who carries which risk?
- Risk management protocol: how are risks managed – and by whom – along the entire life cycle?
- Rigorous (hydrologic) monitoring program to communicate & improve outcomes of investments

Management BC elements



Transaction costs

- “Contract management” effort
- Complexity -procurement of multisector investments?

Requirements for contract management and delegation

- Acceptable performance & Functional requirements
 - Clear risk-transfer
 - Monitoring → concrete & operational to link to payments
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- **Preference for Long-term Integrated Performance Based contracts or PPP's**
 - **Unambiguous KPI's and functional requirements -on which to base payments to private contractors implementing NBS**

Recommendations for next steps



Performance Based Contracting of NBS

- Integrated project developers / PPP sponsors
- Accept different contracting models
- > Risk = > Rewards

Towards “Proven Technology”: Design Pilots whereby with clients

- Link NBS planning process to relevant Investment Programming processes
→ key questions pilot need to answer?
- Develop Procurement instrumentarium
- Test Cash-flows and alternative revenue streams– e.g. Willingness to Pay and Value Capturing
- Performance/ Impact Monitoring systems for contract managers and Investors

EU and H2020 programs

- Shape pilots differently
- Structured market dialogues – also overseas
- Shoulder innovation related risks